

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 45, and 67 in accordance with the following:

1. (CURRENTLY AMENDED) A query-and-response processing method for receiving a search request concerning a query input by a user and searching a database to present search results to the user, the method comprising:

analyzing a search request sentence provided by said user using syntactic parsing;

analyzing an intention of the query based on the analyzed search request sentence,

wherein the analyzing comprises:

determining whether said search request sentence includes an interrogative pronoun, and

extracting, as a topic of query, either a top level component of syntactic hierarchy of said search request sentence₁ in a case said search request sentence does not include an interrogative pronoun₁ or ~~extracting~~ a component qualified by an interrogative pronoun₁ in a case said search request sentence includes the interrogative pronoun;

generating search criteria based on said topic of query extracted in said analyzing the intention of query;

searching said database using said generated search criteria and retrieving, as search results, information that are intended for said topic of query;

determining an output format of search results based on said topic of the query without further input by the user; and

outputting said search results that are selected items to be presented to the user.

2. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein:

said analyzing the query intention comprises determining a topic item, said topic item being a core topic of the search request; and

said determining an output format of search results comprises selecting an item to be presented to said user based on the determination as to whether or not the item is the topic item.

3. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 2, wherein said determining an output format of search results comprises processing information by ordering the search results of the presentation items.

4. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 2, wherein said determining an output format of search results comprises adjusting a level of detail of the presentation to provide all specific items or only main items relating to a particular subject.

5. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 2, wherein said determining an output format of search results comprises classifying the search results according to specified item values to organize by category the information to be presented to the user.

6. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein said determining an output format of search results comprises using data specifying an item relating to a particular item to add the item relating to the particular item to the items to be presented, after the items to be presented to said user are determined.

7. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein:

said generating search criteria comprises storing information about correspondence between a word used for specifying search criteria in an item in the database and an item name in the database; and

said determining an output format of search results comprises replacing said item name in the database with said word to present said search results.

8. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein:

said generating search criteria comprises determining an item under which a value is specified as search criteria; and

said determining an output format of search results comprises removing an item used as the search criteria from presentation items after the presentation items are determined and adding the value of said item to the presentation items as a description of said presentation

items.

9. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein an item under which a value is specified and for which no search data is included in the search results is excluded from presentation items during the selection of the presentation items at said determining an output format of search results.

10. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein said generating search criteria comprises:

providing an item database containing all the values in a particular item that are held in a database to be searched; and,

if a specified value in criteria specification generated for an item is not contained in said item database, providing an alert to the user for indicating a search failure and the cause thereof before executing the entire search process.

11. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein said search criteria generation comprises:

providing an item database containing all the values in a particular item that are held in a database to be searched; and,

if no entry in said item database matches a specified value in the item in the search request, searching for entries having values similar to the specified value and presenting said similar values to the user as alternative value candidates from which the user can make a selection.

12. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 11, wherein said generating search criteria comprises presenting to a user an alternative to a specified value in an item, and, if said alternative is accepted by said user, storing the pair of the originally specified value and the alternative as synonymous words for the value in an item to use said pair to automatically widen criteria during the generation of search criteria.

13. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein said generating search criteria comprises:

generating search criteria to be first used in said searching;

determining whether the search succeeds or fails based on the number of results of the search performed at said searching;

widening the search criteria so as to increase the number of search sets upon determining the search fails; and

widening the search criteria and repeating the search until the search succeeds or the search criteria become unable to be widened.

14. (ORIGINAL) The query-and-response processing method according to claim 13, wherein, if an item in the database to be searched is configured so as to correspond to a particular event, value specification for a particular item is extended to value specification for an event relating to the event associated with said item to widen search criteria.

15. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 13, wherein if the database to be searched is composed of structured text and the search criteria generated specify a structure tag and corresponding text, said structure tag is replaced with a tag covering broader text range in a tag hierarchy to widen the search criteria.

16. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein:

if the analysis at said analyzing a search request fails, an alert concerning the form of the search request is provided; and

it is determined whether or not an item extracted as a topic in the search request at a generating a search request corresponds to an item in the database to be searched, and, if an analysis of the correspondence fails, an alert is provided to the user indicating that the query is outside the scope of the system.

17. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein a list of keywords unique to each of various areas is provided and the list is used to determine the area of the search request at said analyzing a search request; and

if it is determined that the area of the search request is not addressed by the system, an alert is provided to the user for indicating that the query is outside the scope the system.

18. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein search criteria, for an item on a main item list provided in advance, are generated for a topic in the search request for which no correspondence to an item in the database is found at said generating search criteria and further comprises repeating the search in each of the main items and presenting the search results to the user.

19. (ORIGINAL) The query-and-response processing method according to claim 1, wherein the database to be searched is a text base structured with tags, and if the analysis of a search request shows that the query is about a word without tag, the word is first used to perform a simple keyword search without tag and the results of the search are classified by tag added to words to be searched to present the results to the user.

20. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein the database to be searched is a text base structured with tags and, when text to be searched is entered into the database,

a provided list of items essential to a subject covered by the text base is referenced to determine whether an essential item of one of items constituting a subject of the text to be entered is described in the text, and, if it is determined that the essential item is missing, a secondary database provided for the missing item is searched by specifying a value for a key item of the subject in said text to be entered and said text is complemented with a value obtained.

21. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein, if a main database composed of a text base structured with tags and a secondary database holding values of tags contained in the main database are provided as databases to be searched, upon the secondary database relating to an item in search criteria, the secondary database is first searched by specifying a value for an item to be searched for, a list of values for a key item is generated from a search set obtained, and then the list is replaced with a value specified for the tag to search through the main database.

22. (PREVIOUSLY PRESENTED) The query-and-response processing method according to claim 1, wherein, if the database to be searched is a text base structured with tags, values for individual items are extracted and entered into individual databases at the same time when text to be searched is entered into the database, and a group of spellings resembling each other is retrieved from each of the individual databases after the completion of the entry to enable a precise detection of variations in notation compared with that in a case where the entire text is searched.

23-44 (CANCELLED)

45. (CURRENTLY AMENDED) A computer readable medium containing a query-and-response processing program for receiving a search request concerning a query input by a user and searching a database to present search results to the user, said program performing:

- a search request analysis process analyzing a search request sentence provided by said user using syntactic parsing;
- a query intention analysis process for analyzing an intention of the query based on the result of the analysis of said search request sentence, wherein the analyzing comprises:
 - determining whether said search request sentence includes an interrogative pronoun, and
 - extracting, as a topic or query, either a top level component of syntactic hierarchy of said search request sentence₁ in a case said search request does not include an interrogative pronoun₁ or ~~extracting~~ a component qualified by an interrogative pronoun₁ in case said search request sentence includes the interrogative pronoun;
- a search criteria generation process generating search criteria based on said topic of query extracted in said analyzing the intension of query;
- a search execution process-searching said database using said generated search criteria and retrieving, as search results, information which are intended for said topic of query;
- a determining an output format process of determining an output format of search results based on said topic of the query without further input by the user; and
- a presentation process receiving the result of said output formatting process to output said search results which are selected items to be presented to the user.

46. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein:

said query intention analysis process comprises determining a topic item, said topic item being a core topic of the search request; and

said determining an output format process comprises selecting an item to be presented to said user based on the determination whether or not the item is the topic item.

47. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 46, wherein said determining an output format process comprises processing information by ordering the search results of the presentation items.

48. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 46, wherein said determining an output format process comprises adjusting the level of detailedness of the presentation to provide all specific items or only main items relating to a particular subject.

49. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 46, wherein said determining an output format process classifies the search results according to specified item values to organize by category the information to be presented to the user.

50. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein said determining an output format process uses data specifying an item relating to a particular item to add the item relating to the particular item to the items to be presented, after the items to be presented to said user is determined.

51. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein:

said search criteria generation process stores information about correspondence between a word used for specifying search criteria in an item in the database and an item name in the database; and

said determining an output format process replaces said item name in the database with said word to present said search results.

52. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein:

said search criteria generation process determines an item under which a value is specified as search criteria; and

said determining an output format process removes an item used as the search criteria from presentation items after the presentation items are determined and adds the value of said item to the presentation items as presentation items are determined and adding the value of said item to the presentation items as a description of said presentation items.

53. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein an item under which a value is specified and for which no search data is included in the search results is excluded from presentation items during the selection of the presentation items in said output formatting process.

54. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein said search criteria generation process comprises:

providing an item database containing all the values in a particular item that are held in a database to be searched; and,

if a specified value in criteria specification generated for an item is not contained in said item database, providing an alert to the user for indicating a search failure and the cause thereof before executing the entire search process.

55. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein said search criteria generation process comprises:

providing an item database containing all the values in a particular item that are held in a database to be searched; and,

if no entry in said item database matches a specified value in the item in the search request, searching for entries similar to the specified value and presenting said entries to the user as alternative item value candidates from which the user can make a selection.

56. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 55, wherein said search criteria generation process comprises presenting to a user an alternative to a specified value in an item, and, if said alternative is accepted by said user, storing the pair of the originally specified value and the alternative as synonymous words for the value in an item to use said pair to automatically widen criteria during the generation of search criteria.

57. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein said search criteria generation process comprises:

generating search criteria to be first used in said search execution process;

determining whether the search succeeds or fails based on the number of results of the search performed in said search execution process; and

if it is determined that said search fails, widening the search criteria so as to increase the number of search sets; and

widening the search criteria and causing the search to be repeated in said search execution process until the search succeeds or the search criteria become unable to be widened.

58. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 57, wherein, if an item in the database to be searched is configured so as to correspond to a particular event, value specification for a particular item is extended to value specification for an event relating to the event associated with said item to widen search criteria.

59. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 57, wherein if the database to be searched is composed of structured text and the search criteria generated in said search criteria generation process specify a structure tag and corresponding text, said structure tag is replaced with a tag covering broader text range in a tag hierarchy to widen the search criteria.

60. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein:

if the analysis at said search request analysis fails, an alert concerning the form of the search request is provided; and

it is determined whether or not an item extracted as a topic in the search request at a generating a search request corresponds to an item in the database to be searched, and, if an analysis of the correspondence fails, an alert is provided to the user indicating that the query is outside the scope of the system.

61. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein a list of keywords unique to each of various areas is provided and the list is used to determine the area of the search request in said search request analysis process; and

if it is determined that the area of the search request is not addressed by the system, an alert is provided to the user for indicating that the query is outside the scope of the system.

62. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein search criteria, for an item on a main item list provided in advance, are generated for a query topic for which no correspondence to an item in the database is found in said search criterion generation process further comprising repeating the search in each of the main items and presenting the search results to the user.

63. (PREVIOUSLY PRESENTED) The query-and-response processing program for a computer recording medium according to claim 45, wherein the database to be searched is a text base structured with tags, and if the analysis of a search request shows that the query is about a word without tag, the word is first used to perform a simple keyword search without tag and the results of the search are classified by tag added to words to be searched to present the results to the user.

64. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein the database to be searched is a text base structured with tags and, when text to be searched is entered into the database,

a provided list of items essential to a subject covered by the text base is referenced to determine whether an essential item of one of items constituting a subject of the text to be entered is described in the text, and, if it is determined that the essential item is missing, a secondary database provided for the missing item is searched by specifying a value for a key item of the subject in said text to be entered and said text is complemented with a value obtained.

65. (PREVIOUSLY PRESENTED) The computer readable medium according to claim 45, wherein, if a main database composed of a text base structured with tags and a secondary database holding values of tags contained in the main database are provided as databases to be searched, upon the secondary database relating to an item in search criteria, the secondary database is first searched by specifying a value for an item to be searched for, a list of values for a key item is generated from a search set obtained, and then the list is replaced with a value specified for the tag to search through the main database.

66. (PREVIOUSLY PRESENTED) The query-and-response processing program for a computer recording medium according to claim 45, wherein, if the database to be searched is a text base structured with tags,

values for individual items are extracted and entered into individual databases at the same time when text to be searched is entered into the text database, and a group of spellings resembling each other is retrieved from each of the individual databases after the completion of the entry to enable a precise detection of variations in notation compared with that in a case where the entire text is searched.

67. (CURRENTLY AMENDED) A query-and-response processing apparatus for receiving a search request concerning a query input by a user and searching a database to present search results to the user, comprising:

a search request analyzing module analyzing a search request sentence provided by said user using syntactic parsing;

a query intention analyzing module analyzing an intention of the query based on the analyzed search request sentence, wherein the analyzing comprises:

determining whether said search request sentence includes an interrogative, and extracting, as a topic of query, either a top level component of syntactic hierarchy of said search request sentence, in a case said search request sentence does not include an interrogative pronoun, or ~~extracting~~ a component qualified by an interrogative pronoun in a case said search request sentence includes the interrogative pronoun;

a search criteria generating module generating search criteria based on said topic of query extracted in said analyzing the intention of query;

a search executing module searching said database using said generated search criteria and retrieving, as search results, information that are intended for said topic of query;

an output format determining module determining an output format of search results based on said topic of the query without further input by the user; and

an output module outputting said search results that are selected items to be presented to the user.